

Application Serial No. 09/936,916
Amendment dated December 22, 2004
Reply to Office Action dated August 23, 2004

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): ~~Process A method~~ for the homogeneous heating of semi-transparent and/or transparent glass articles and/or glass-ceramic materials ~~with the aid of using~~ infrared radiation, whereby the glass articles and/or glass-ceramic materials are subjected to a heat treatment in the range from 20°C to ~~1705°C~~ 3000°C, characterized in that the heating is achieved by a component of infrared radiation acting directly on the glass articles and/or the glass-ceramic materials as well as a component of infrared radiation acting indirectly on the glass articles and/or glass-ceramic materials, in which the component of the radiation acting indirectly on the glass articles and/or the glass-ceramic materials amounts to more than 50% of the total radiation output, and wherein the radiation is a shortwave infrared radiation with a color temperature higher than 1500 K.

Claim 2 (canceled)

Claim 3 (currently amended): ~~Process The method~~ according to claim 1, ~~characterized in that wherein~~ the infrared radiation acting indirectly on the glass articles and/or the glass-ceramic material materials comprises a share at least a proportion of reflected and/or scattered radiation.

Claim 4 (currently amended): ~~Process The method~~ according to claim 1, ~~characterized in that wherein~~ on the average more than 50% of the total radiation output of shortwave infrared radiation ~~given off which is emitted~~ by the IR radiators is not absorbed ~~in the once through (einmaligen) impinging when it impinges on the glass articles and/or glass-ceramic materials once.~~

Claim 5 (currently amended): ~~Process The method~~ according to claim 1, ~~characterized in that~~ the process is carried out in a ~~circumscribed space with walls, base and cover, especially an~~

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IR radiation hollow space ~~space which is bounded by wall, floor and ceiling surfaces of an infrared radiation cavity.~~

Claim 6 (currently amended): ~~Process~~ The method according to claim 5, characterized in that the wherein a proportion of reflected and/or scattered infrared radiation is reflected and/or scattered by at least a part of the wall, ~~base and/or cover~~ floor and/or ceiling surfaces.

Claim 7 (currently amended): ~~Process~~ The method according to claim 6, characterized in that the component wherein the proportion of the infrared radiation which is reflected and/or scattered ~~from by~~ the part of the wall, ~~base and/or cover~~ floor and/or ceiling surfaces amounts to more than 50% of the radiation striking which impinges on these surfaces.

Claim 8 (currently amended): ~~Process~~ The method according to claim 6, characterized in that the share wherein the proportion of the infrared radiation which is reflected and/or scattered ~~from by~~ the part of the wall, ~~base and/or cover~~ floor and/or ceiling surfaces amounts to more than 90% or 95%, especially more than 98%.

Claim 9 (currently amended): ~~Process~~ The method according to claim 1, characterized in that wherein the infrared radiation acting which acts indirectly on the glass articles and/or glass-ceramic ~~material~~ materials comprises a component proportion of infrared radiation ~~that which~~ is absorbed by a carrier support body, converted into heat and ~~given off emitted~~ to the glass and/or glass-ceramic material, which is thermally joined with the carrier connected to the support body.

Claim 10 (currently amended): ~~Process~~ The method according to claim 9, characterized in that the wherein heat is transferred to the glass articles and/or glass-ceramic materials, which is thermally joined with the carrier body over connected to the support body via heat radiation and/or heat conduction and/or convection.

Claim 11 (currently amended): ~~Process~~ The method according to claim 9, characterized in that as carrier body wherein ceramic plates are used as the support body.

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Claim 12 (currently amended): ~~Process The method according to claim 9, characterized in that the carrier bodies comprise SiC, especially SiSiC wherein the support body comprises SiC.~~

Claim 13 (currently amended): ~~Process The method according to claim 9, characterized in that wherein the emissivity of the carrier support body is higher greater than 0.5.~~

Claim 14 (currently amended): ~~Process The method according to claim 9, characterized in that wherein the heat thermal conductivity of the carrier support body in the range region of the heat treatment temperature is at least five times as high great as that of the glass or of the glass-ceramic material to be treated.~~

Claims 15-34 (canceled)

Claim 35 (new): The method according to claim 6, wherein the proportion of the infrared radiation reflected which is reflected and/or scattered by the part of the wall, floor and/or ceiling surfaces amounts to more than 95%.

Claim 36 (new): The method according to claim 6, wherein the proportion of the infrared radiation reflected which is reflected and/or scattered by the part of the wall, floor and/or ceiling surfaces amounts to more than 98%.

Claim 37 (new): The method according to claim 9, wherein the support body comprises SiSiC.

Claim 38 (new): A method for the homogeneous heating of semi-transparent and/or transparent glass articles and/or glass-ceramic materials using infrared radiation, whereby the glass articles and/or glass-ceramic materials are subjected to a heat treatment in the range from 20°C to 3000°C. characterized in that the heating is achieved by a component of infrared radiation acting directly on the glass articles and or the glass-ceramic materials as well as a component of infrared radiation acting indirectly on the glass articles and/or glass-ceramic materials, in which the component of the radiation acting indirectly on the glass articles

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and/or the glass-ceramic materials amounts to more than 50% of the total radiation output, wherein the infrared radiation which acts indirectly on the glass articles and/or glass-ceramic material comprises a proportion of infrared radiation which is absorbed by a support body, converted into heat and emitted to the glass and/or glass-ceramic material, which is thermally connected to the support body.

Claim 39 (new): The method according to claim 38, wherein heat is transferred to the glass and/or glass-ceramic, which is thermally connected to the support body via heat radiation and/or heat conduction and/or convection.

Claim 40 (new): The method according to claim 38, wherein ceramic plates are used as the support body.

Claim 41 (new): The method according to claim 38, wherein the support body comprises SiC.

Claim 42 (new): The method according to claim 38, wherein the emissivity of the support body is greater than 0.5.

Claim 42 (new): The method according to claim 38, wherein the thermal conductivity of the support body in the region of the heat treatment temperature is at least five times as great as that of the glass or of the glass-ceramic material to be treated.

Claim 43 (new): The method according to claim 38, wherein the support body comprises SiSiC.